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Response to Office Action Dated 11/03/2005

**REMARKS**

A review of the claims indicates that:

A) Claims 1, 2 and 4—22 remain in their original form.

B) Claims 1, 2 and 4—22 are currently in a state of final rejection.

In view of the following remarks, Applicant respectfully requests reconsideration of the rejected claims.

**The Lin Reference**

The Lin reference discloses a way to calibrate a network copy system (see Lin, at Title). Lin provides a technique to minimize variations in output images generated by different output devices (col. 9, lines 33—35). Lin notes that two printers of the same model can produce different output (col. 9, lines 15—18 and 27—30). In particular, Lin teaches that a reference device may be selected, while the other devices are considered non-reference devices (col. 9, lines 37—43). Four 1-D look-up tables are created for each non-reference printer, so that the output of these printers is the same or very similar to the reference printer, i.e. the non-reference printers are calibrated to the reference printer (Abstract and other locations).

**The Concept of a Least Dynamic Printer**

The Applicant believes that a brief discussion of printer dynamics and the concept of “a least dynamic printer” would be helpful.

Referring briefly to the Applicant’s Fig. 4 and page 9 of the specification, a graphical representation 400 of a CIE Lab color space is

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1 seen. A closed loop 402 represents a three-dimensional form enclosing the  
2 color gamut required for ideal printing of a color target. A second curve 404  
3 represents the gamut printable by a particular printer. Note that the curve  
4 404 is 'outside' of the loop 402; therefore, the printer having gamut 404 is  
5 fully able to print the target associated with the gamut 402. A third curve  
6 406 is 'inside' curve 402. Accordingly, a printer having the gamut 406 is  
7 not fully able to print the target associated with the gamut 402. By  
8 comparison, the printer associated with the gamut 406 is less dynamic than  
9 the printer associated with the curve 404.  
10

11 In another example, Fig. 5 and page 10—11 of the spec shows curves  
12 506, 508 and 510 associated with three printers. Note that curve 506 is  
13 'lighter' for all input values, than curves 508 and 510. The 'lighter' print  
14 means that the printer is less able to put the required amount of ink on the  
15 paper, and therefore has less dynamic range. Therefore, curve 506 is  
16 associated with the printer having the least dynamic range within the group  
17 of three printers. (See page 10, lines 19—25.)  
18

19 Thus, a less dynamic printer has a 'less dynamic' range, and is  
20 therefore less able to respond to some print data in the correct manner, as  
21 compared to a more dynamic printer. Thus, within a group of printers, a  
22 least dynamic printer is least able to print certain aspects of a print target or  
23 other print output.  
24  
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1        Note that, within different parts of a print gamut, different printers  
2        may be 'least dynamic.' Additionally note that color look-up tables could  
3        be used by non-least dynamic printers, to result in the same printout as the  
4        least dynamic printer.

5        The discussion of this section is not meant to interpret or limit the  
6        claims. Instead, this section is meant to provide general knowledge about  
7        printer dynamics.

8  
9        **The §102 Standard**

10        According to the MPEP §2131, a claim is anticipated only if each and every  
11        element as set forth in the claim is found, either expressly or inherently described,  
12        in a single prior art reference. The identical invention must be shown in as  
13        complete detail as is contained in the claim.

14        Anticipation is a legal term of art. The applicant notes that in order to  
15        provide a valid finding of anticipation, several conditions must be met: (i) the  
16        reference must include every element of the claim within the four corners of the  
17        reference (see MPEP §2121); (ii) the elements must be set forth as they are recited  
18        in the claim (see MPEP §2131); (iii) the teachings of the reference cannot be  
19        modified (see MPEP §706.02, stating that "No question of obviousness is present"  
20        in conjunction with anticipation); and (iv) the reference must enable the invention  
21        as recited in the claim (see MPEP §2121.01). Additionally, (v) these conditions  
22        must be simultaneously satisfied.

23        The §102 rejection of claims 1—9, 12—13 and 15—21 is believed to be  
24        in error. Specifically, the PTO and Federal Circuit provide that §102  
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1 anticipation requires that each and every element of the claimed invention  
2 be disclosed in a single prior art reference. *In re Spada*, 911 F.2d 705,  
3 15 USPQ2d 1655 (Fed. Cir. 1990). The corollary of this rule is that the  
4 absence from a cited §102 reference of any claimed element negates the  
5 anticipation. *Kloster Speedsteel AB, et al. v. Crucible, Inc., et al.*,  
6 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986).

7 The applicant notes the requirements of MPEP §2131, which states  
8 "to anticipate a claim, the reference must teach every element of the claim."  
9 This MPEP section further states that "'A claim is anticipated only if each  
10 and every element as set forth in the claim is found, either expressly or  
11 inherently described, in a single prior art reference.' *Verdegaal Bros. v.*  
12 *Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053  
13 (Fed. Cir. 1987). 'The identical invention must be shown in as complete  
14 detail as is contained in the ... claim.' *Richardson v. Suzuki Motor Co.*, 868  
15 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements  
16 must be arranged as required by the claim, but this is not an ipsissimis verbis  
17 test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831,  
18 15 USPQ2d 1566 (Fed. Cir. 1990)."

#### 19 Traversal of the §102 Rejections

20  
21 Claims 1—9, 12—13 and 15—21 were rejected under §102(e) as being  
22 anticipated by U.S. Patent No. 6,404,511, hereinafter "Lin." In response, the  
23 Applicant respectfully traverses the rejection.  
24  
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1       **Claim 1** recites calculating look-up tables for a cluster of printers  
2 comprising:

- 3       • **determining a least dynamic printer in the cluster;** and
- 4       • **calculating corrected input values required to normalize an output of**  
5       **at least one non-least dynamic printer in the cluster.**

6       The Applicant's claim recites, "determining a least dynamic printer in the  
7 cluster". This step is an improvement upon Lin, who discloses *no particular*  
8 *method by which a reference printer is selected*. Not only does Lin fail to disclose  
9 the recited step of "determining a least dynamic printer in the cluster", but Lin  
10 fails to disclose *any* method by which the reference printer is selected.

11       Referring to Lin at column 9, lines 41—43, Lin arbitrarily selects a printer  
12 without any strategy, goal and/or calculation. The plain language of Lin indicates  
13 that a reference printer is selected arbitrarily. In particular, Lin says:

14  
15       "One of the printers, say, printer 30A, is a reference printer, and the  
16 other printers, printers 30B and 30C in this case, are non-reference  
17 printers."

18  
19  
20       Thus, Lin does not disclose, "determining a least dynamic printer in the  
21 cluster". That is, Lin is silent with respect to any step wherein a reference printer  
22 is determined. Therefore, it appears to be the case that Lin simply chooses one of  
23 the printers to be the reference printer—without disclosing any effort, calculation  
24  
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1 or contemplation of selecting the least dynamic printer. Thus, Lin does not  
2 disclose a step comprising determining a *least dynamic* printer in the cluster.

3 The Patent Office suggests that the reference printer 30A, the Abstract and  
4 columns 9—11 in Lin disclose “determining a least dynamic printer in the  
5 cluster”. The Applicant respectfully disagrees.

6 As seen above, Lin’s printer 30A is a reference printer. However, the fact  
7 that Lin has a reference printer does not mean that Lin discloses, “determining a  
8 least dynamic printer in the cluster”. In fact, Lin fails to disclose at least this  
9 element recited by the claim, thereby frustrating the Patent Office’s claim of  
10 anticipation.  
11

12 The Patent Office suggests that columns 9—11 disclose, “determining a  
13 least dynamic printer in the cluster”. The Applicant respectfully disagrees.

14 Columns 9—11 disclose the concept of a reference printer (e.g. column 9,  
15 lines 41—43). However, Lin does not disclose *how* that printer was selected. In  
16 particular, Lin does not disclose that the reference printer was selected because it  
17 is the least dynamic printer of the group.  
18

19 On page 6 of the Office Action mailed 11/03/2005, the Patent Office  
20 appears to suggest that the reference printer selected by Lin *could have been* the  
21 least dynamic printer of the group of printers, and that therefore Lin anticipated  
22 the Applicant’s claim. However, Lin fails to disclose a step of “determining a  
23 least dynamic printer in the cluster”. Therefore, whether Lin’s selected printer  
24 30A is, or is not, the least dynamic printer is irrelevant—since Lin fails to disclose  
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1 the step of determining which printer is the least dynamic. That is, while Lin  
2 discloses a reference printer, and selection of such a printer is implied, Lin does  
3 not (1) disclose a method by which the printer is selected, and therefore does not  
4 (2) disclose a step whereby determination is made of which printer is a least  
5 dynamic printer.

6 As seen by reference to Claim 1, the Applicant explicitly recites,  
7 "determining a least dynamic printer in the cluster". Therefore, Lin fails to  
8 disclose each and every element recited by Claim 1. Accordingly, the claim is not  
9 anticipated. The Applicant respectfully requests that the Patent Office remove the  
10 section 102 rejection.  
11

12 **Claim 2** depends from Claim 1 and is allowable due to its dependence from  
13 an allowable base claim. This claim is also allowable for its own recited features  
14 that, in combination with those recited in Claim 1, are neither disclosed nor  
15 suggested in references of record, either singly or in combination with one  
16 another.  
17

18 **Claim 3** was previously cancelled.

19 **Claim 4** recites:

- 20 • wherein a least dynamic printer is determined for each primary  
21 color.

22 In general, the Lin reference does not determine a least dynamic printer. In  
23 particular, Lin does not determine a least dynamic printer for each primary color.  
24  
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1       The Patent Office suggests that col. 10, lines 44—60 disclose the recited  
2 subject matter. The Applicant respectfully traverses the rejection.

3       Column 10 discloses that transfer functions for each primary color are  
4 calculated, and that the non-reference printers may be calibrated to the reference  
5 printer. However, Lin does not disclose determining a least dynamic printer  
6 generally, and does not disclose “wherein a least dynamic printer is determined for  
7 each primary color”. Additionally, Lin does not disclose how primary colors are  
8 at all involved in the selection of a reference printer.

9       The Patent Office fails to show how Lin's reference to primary colors has  
10 anything to do with *determining a least dynamic printer for each primary color.*  
11 In fact, what Lin is doing is mapping the non-reference printers to the reference  
12 printer for each color. Lin is not finding a least dynamic printer for each color.  
13 Also, Lin discloses only one reference printer, not one for each primary color.

14       Therefore, the Lin reference fails to disclose elements recited in the  
15 Applicant's claim. Accordingly, the Applicant respectfully requests that the  
16 rejection be removed.

17       **Claims 5 and 6** depend from Claim 1 and are allowable due to their  
18 dependence from an allowable base claim. These claims are also allowable for  
19 their own recited features that, in combination with those recited in Claim 1, are  
20 neither disclosed nor suggested in references of record, either singly or in  
21 combination with one another.



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1 **Claim 7** recites a method for calibrating a cluster of printers comprising:

- 2     • printing a calibration target with each printer in the cluster;  
3     • measuring each calibration target to produce measurement data;  
4     • calculating transfer functions for each printer in the cluster;  
5     • **determining a least dynamic printer in the cluster;**  
6     • calculating corrected input values required to normalize output of  
7     non-least dynamic printers in the cluster;  
8     • organizing the corrected input values into look-up tables; and  
9     • sending the look-up tables to each printer within the cluster.

10     Due to similarities between Claims 1 and 7, the remarks with respect to the  
11 rejection of Claim 1 are incorporated herein by references.

12     Claim 7 recites, “determining a least dynamic printer.” This step, by which  
13 a reference printer is selected, is not disclosed by the Lin reference. In fact, Lin is  
14 generally silent about *how* the reference printer is selected.

15     The Patent Office suggests that the reference printer 30A is analogous to  
16 the least dynamic printer. The Applicant respectfully disagrees.

17     Lin does not disclose any step by which the reference printer is determined.  
18 Lin simply assigns one of the printers to be the reference (see column 9, line 41).

19     Lin does not disclose any step involving “determining a least dynamic  
20 printer in the cluster”. (Refer to entire Lin reference. “Least dynamic” or similar  
21 is simply not disclosed by Lin.)

22     The reference printer disclosed by Lin is not selected to be a “least dynamic  
23 printer.” While the Applicant’s least dynamic printer is a reference printer, the  
24 reference printer of Lin is not necessarily a least dynamic reference printer. In  
25 fact, Lin does not discuss the concept of a “least dynamic printer.” Moreover, Lin

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1 does not disclose any selection process by which the "least dynamic" printer  
2 within the cluster is determined. Lin simply selects a printer (the reference printer,  
3 column 9, line 41), and then calibrates the non-reference printers to that printer  
4 (Abstract, first two lines).

5 Therefore, the Lin reference fails to disclose elements recited in the  
6 Applicant's claim. Accordingly, the section 102 rejection is improper, and the  
7 Applicant respectfully requests that the rejection be removed.

8 Claims 8, 9 and 12 depend from Claim 7 and are allowable due to their  
9 dependence from an allowable base claim. These claims are also allowable for  
10 their own recited features that, in combination with those recited in Claim 7, are  
11 neither disclosed nor suggested in references of record, either singly or in  
12 combination with one another.  
13  
14

15 **Claim 13** recites calibrating a cluster of printers comprising:

- 16 • printing a calibration target with each printer in the cluster;
- 17 • measuring each calibration target to produce measurement data;
- 18 • calculating transfer functions for each primary color and for each  
19 printer in the cluster;
- 20 • **determining a least dynamic printer in the cluster with respect  
21 to each primary color;**
- 22 • calculating corrected input values required to normalize output of  
23 non-least dynamic printers in the cluster to the least dynamic printer  
24 in each cluster with respect to each primary color;
- 25 • organizing the corrected input values into look-up tables; and
- sending the look-up tables to each printer within the cluster for  
inclusion in a color data flow.

24 Due to similarities between Claims 1, 4, 7 and 13, the remarks with respect  
25 to the rejection of Claims 1, 4 and 7 are incorporated herein by references.

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1 The Patent Office suggests that columns 9—11 disclose determining a least  
2 dynamic printer. However, Lin does not disclose determining a least dynamic  
3 printer, generally. More specifically, Lin does not disclose determining a least  
4 dynamic printer with respect to each (or any) primary color(s). The discussion of  
5 primary colors by Lin does not constitute a determination of a least dynamic  
6 printer in the cluster with respect to each primary color. Instead, Lin is mapping  
7 non-reference printers to the reference printer for each color. This is not  
8 “determining a least dynamic printer in the cluster with respect to each primary  
9 color”.

11 Therefore, the Lin reference fails to disclose elements recited in the  
12 Applicant’s claim. Accordingly, the section 102 rejection is improper, and the  
13 Applicant respectfully requests that the rejection be removed.

15  
16 **Claim 15** recites a cluster of printers comprising:

- 17 • at least two printers;
- 18 • a transfer function calculator to derive a transfer function for each  
19 printer with respect to at least one color;
- 20 • **a least dynamic response selector to determine a least dynamic  
21 printer from within the cluster of printers for at least one color;**
- 22 • a normalizer for calculation of corrected input values required to  
23 normalize more dynamic printers’ output with respect to the least  
24 dynamic printer; and
- 25 • a look-up table assembler to organize the corrected input values into  
look-up tables.

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1 Due to similarities between Claims 1, 4, 7, 13 and 15, the remarks with  
2 respect to the rejection of Claims 1, 4, 7 and 13 are incorporated herein by  
3 references.

4 Claim 15 recites "a least dynamic response selector to determine a least  
5 dynamic printer from within the cluster of printers for at least one color." Lin,  
6 who does not disclose "least dynamic response" also does not disclose a selector  
7 for this function.

8 The Patent Office suggests that the selection of printer 30A indicates that  
9 Lin discloses a least dynamic response selector. However, nothing in Lin suggests  
10 or discloses the concept of a least dynamic response. In fact, the cited passage at  
11 column 9, lines 40—42 would make it appear the Lin *simply picks one of the*  
12 *printers* to be the reference (so that the other printers can be normalized to the  
13 selected reference printer). Nothing in Lin discloses selecting a reference printer  
14 that is a *least dynamic reference printer*. Moreover, nothing in Lin discloses  
15 selecting a reference printer that is a *least dynamic reference printer from within*  
16 *the cluster of printers for at least one color*.

17 Therefore, the Lin reference fails to disclose elements recited in the  
18 Applicant's claim. Accordingly, the Applicant respectfully requests that the  
19 rejection be removed.

20 Claim 16 depends from Claim 15 and is allowable due to its dependence  
21 from an allowable base claim. This claim is also allowable for its own recited  
22 features that, in combination with those recited in Claim 1, are neither disclosed  
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1 nor suggested in references of record, either singly or in combination with one  
2 another.

3 Claims 17—19 were rejected as corresponding to Claims 7—12.  
4 Accordingly, the Applicant respectfully traverses the rejection, and incorporates  
5 by reference the arguments of Claims 7—12.

6 Claims 20—21 were rejected as corresponding to Claims 15—16.  
7 Accordingly, the Applicant respectfully traverses the rejection, and incorporates  
8 by reference the arguments of Claims 15—16.

9  
10 **Traversal of the §103 Rejections**

11 Claims 10, 11, 14 and 22 stand rejected under 35 U.S.C. §103(a) as being  
12 obvious over Lin in view of U.S. Pat. No. 6,172,771 hereinafter “Ikeda.” In  
13 response, the Applicant respectfully traverses the rejection.

14 The Ikeda reference fails to remedy the failings of Lin. In particular, Ikeda  
15 fails to disclose, “determining a least dynamic printer in the cluster.” Because  
16 Ikeda fails to remedy the failings of the Lin reference, the rejection of claims 7, 13  
17 and 20, from which claims 10, 11, 14 and 22 depend, is improper.

18 Therefore, because Claims 10, 11, 14 and 22 depend from Claims 7, 13 or  
19 20, these claims are allowable due to their dependence from an allowable base  
20 claim. These claims are also allowable for their own recited features that, in  
21 combination with those recited in their respective base claims, are neither  
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1 disclosed nor suggested in references of record, either singly or in combination  
2 with one another.

3 Therefore, even in combination, the Lin and Ikeda references *fail to*  
4 *disclose elements recited in the Applicant's claim.* Accordingly, the section 103  
5 rejection is improper, and the Applicant respectfully requests that the rejection be  
6 removed.

7 **Traversal of the Patent Office's Response to Applicant's Arguments**

8 The Patent Office makes the point that any printer (30A—C) can be  
9 selected as the reference printer, and that the selection may result in the selection  
10 of the least dynamic printer.  
11

12 However, the Applicant respectfully points out that selecting the least  
13 dynamic printer by chance is not the same thing as a method step reciting  
14 "determining a least dynamic printer in the cluster". Thus, while Lin discloses  
15 selecting a reference printer, Lin does not disclose the step of determining a least  
16 dynamic printer in the cluster. Thus, the Applicant respectfully submits that Lin  
17 fails to show the elements recited by the independent claims.  
18

19 **Conclusion**

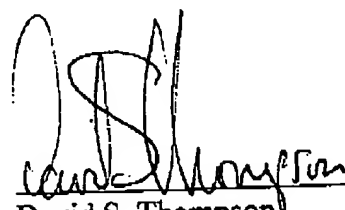
20 The Applicant submits that all of the claims are in condition for allowance  
21 and respectfully requests that a Notice of Allowability be issued. If the Office's  
22 next anticipated action is not the issuance of a Notice of Allowability, the  
23 Applicant respectfully requests that the undersigned attorney be contacted for  
24 scheduling an interview.  
25

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Respectfully Submitted,

Dated: 1-3-'06

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